CO2 Technologies

Iowa Manufacturing Extension Partnership

Centerville Machining Improves Cash Flow By Reducing Set-Up Times

Client Profile:
Centerville Machining, Inc. is a small, privately held contract machine shop in Centerville, Iowa. The company employs less than 20 people.

Situation:
Centerville Machining could not get orders through the plant fast enough to meet its cash flow requirements. To determine its baseline productivity, the company collected five weeks of data on dollars shipped per week. On average, Centerville Machining was shipping $10,272 of product per week--a woefully small number compared to the cost of operations. The company asked the Iowa Manufacturing Extension Partnership (IMEP), a NIST MEP network affiliate, for help improving productivity.

Solution:
IMEP referred Centerville Machining to Iowa State University's Center for Industrial Research and Service (CIRAS), an IMEP partner. CIRAS worked with the company to reduce set-up times and batch sizes, and to increase the overall productivity of the plant.

The project began with a leadership training session on constraint management, including "throughput" financial analysis--a process of on-going improvement, identification of the capacity-constrained resources (CCR), and determination of the proper measurements. CIRAS worked with Centerville Machining employees to create a computer model of the operation, used to accurately determine the actual CCR. Three CNC lathes proved to be the cause of most of Centerville Machining's constraints.

Next, CIRAS set two groups of employees to work developing a work schedule for the lathes (using the videotape "The Goal" as a teaching tool), and held the first set-up reduction training session for the company's set-up reduction team. CIRAS also continued to work with Centerville Machining employees on scheduling, determination of work rules, and the establishment of measurement systems. After two weeks of intense planning, CIRAS reviewed the scheduling process and updated the company's spreadsheet tool to capture throughput dollar data in the future.

In one month, Centerville Machining reduced its set-up times, improved its productivity, and created a preventative maintenance system for its equipment. The resultant increases in dollars shipped per week improved company cash flow and will continue to have positive impacts on overall sales.

Results:
Increased productivity in dollars shipped per week from $10,272 to $18,892.
Reduced set-up time by 50 percent.
Created a production schedule that controls expenses and maximizes throughput.
Increased annual sales by $448,240.
Retained annual sales of $545,000.
Saving $290,000 per year in costs.
Saved 12 jobs.

Testimonial:
“Without [the Iowa Manufacturing Extension Partnership and Iowa State University’s Center for Industrial Research and Service's] help we would not be in business now.”

David Belloma, President